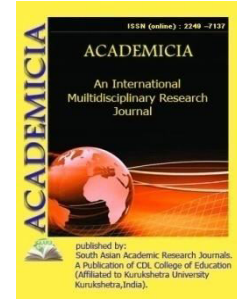




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**ORGANIZATIONAL AND LEGAL SUPPORT BEING GIVEN TO THE
 COMMERCIALIZATION OF INTELLECTUAL ACTIVITY AT
 UNIVERSITY LEVEL**

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ABSTRACT

The further development of the highest vocational education system in Uzbekistan requires changes in the system of managing the intellectual potential of the university and the commercialization of intellectual property. The article identifies the features of the main models of the transfer of university developments and technologies in business in foreign countries and Uzbekistan. The problems of regulatory and legal regulation of the transfect of the results of intellectual activity are currently considered.

KEYWORDS: *Intellectual Property, Higher Education, Innovation Transfer, Commercialization Of Intellectual Activity, Models For Integration Of Science And Business.*

INTRODUCTION

In the world market, along with goods, works and services, the "fourth basket" is intellectual property rights. It is intellectual property that provides an advantage in additional competitiveness, including the creation and use of innovative technologies, and the production and sale of innovative products. Intellectual property accounts for 45 percent of GDP in Europe, 12 percent in China, and 7 percent in Russia. According to the World Bank, in 2018, Uzbekistan spent 0.1% of gross domestic product (GDP) on R&D (research and implementation) [2]. This is several tens of times lower than the world average (2.14% of GDP) [p. 3.29]. If we look at the budget expenditures for 2021, the expenditures for science amounted to 1 trillion 151 billion soums (about 110 million US dollars at the exchange rate as of January 13, 2021. For comparison, in Japan in 2018 for R&D will be 3.2% of GDP. or about \$ 170 billion in equivalent expenditures) [4].

Of course, this situation shows that the level of commercialization of intellectual property is much lower than the world level. Therefore, in the "Action Strategy for the five priority areas of development of the Republic of Uzbekistan in 2017-2021", approved by the Decree of the President of the Republic of Uzbekistan dated February 7, 2017 PF-4947, effective mechanisms to stimulate research and innovation, implementation of scientific and innovative achievements creation has been identified as a priority for science.

Further, the Decree of the President of the Republic of Uzbekistan dated September 21, 2018 "On approval of the Strategy of Innovative Development of the Republic of Uzbekistan for 2019-2021" PF-5544 approved the Strategy of Innovative Development of the Republic of Uzbekistan for 2019-2021, emphasizing the low level of commercialization reported [5].

One of the priorities of this Strategy is to ensure that by 2030 the Republic of Uzbekistan will be among the top 50 countries in the world according to the Global Innovation Index. The Global Innovation Index is currently the only ranking of intellectual property in Uzbekistan. In the ranking of 2020, Uzbekistan ranked 93rd out of 131 countries (for comparison, Kazakhstan - 77th place, Turkey - 51st place, Russia - 47th place) [6, p. 8]. Also, in the ranking of the Global Innovation Index 2021, Uzbekistan rose 7 places and ranked 86th among 132 countries analyzed [7, p. 11]. It is noteworthy that the data on the University / industry research collaboration indicator, coded 5.2.1, was not taken into account, as an explanation for the lack of information on this in the World Economic Forum database [p. 8.2]. This situation, in turn, indicates the lack of reliable international data on scientific and innovative developments created in universities and the application of other forms of intellectual property in industry, industry orders for the creation of intellectual property in universities.

In general, the state of commercialization of intellectual property in the country is not satisfactory. For example, last year about 400 inventions, 110 utility models, 170 industrial designs, 36 selection achievements were registered, but only 43 scientific developments were commercialized [9].

If we look at the experience of developed as well as rapidly developing countries and internationally, we can see that higher education institutions use several ways to commercialize intellectual property.

According to a study by the World Intellectual Property Organization (WIPO), the most common method of technology transfer for public research organizations in countries with economies in transition, including the former Soviet Union, is the free transfer of intellectual property rights to third parties. License agreements, on the other hand, are the second most common transfer strategy and are implemented before the establishment of spin-offs (subsidiaries) [11, p. 18].

The success of commercialization often depends on the involvement of the researchers who created the original invention, as the researchers will have additional knowledge that is not yet known to anyone, and without such knowledge, the project may fail. In considering the distribution of income between the University and its researchers, the Beya-Dowle Act strengthens incentives for researchers to be entrepreneurs and actively participate in the commercialization process.

In recent years, in countries with advanced economies based on innovation and knowledge, and the adoption of laws such as the Beya-Dowle Act in the United States, university patenting and

licensing rates have increased significantly, as such laws give state research organizations a preemptive right to acquire intellectual property rights. [12, p.628]. For example, such cases can be observed in countries such as the United Kingdom, Japan, Germany, Austria, France, Denmark, China and the Republic of Korea. However, this is not a prerequisite for successful transfer of technology, as researchers or teachers in several leading innovative countries in Europe, including Finland (until 2007) and Sweden, can own intellectual property created in public research organizations [13, p. 28]. When necessary (e.g., when an industry partner makes a significant contribution to research), government research organizations maintain flexibility (flexibility) in negotiating alternative forms of intellectual property ownership. At the same time, they will be responsible for the active work on the commercialization of intellectual property, and therefore the issue of maintaining the public right to claim a non-existent license will be considered.

The need for patenting by a university cannot always be overestimated for the economy. For example, the University of California, which is the leading patent holder among U.S. universities, ranks 57th in the U.S. patent system from 1969 to 2008. [14] But no other University was in the top hundred. Only 5 percent (5,000 applications) of patents to the European Patent Office come from universities [15, p. 22]. According to the Patent Cooperation Treaty (PTC) as an international patent system, in 2019, universities accounted for 5.6% of total applications. The University of California, Los Angeles (USA) is leading among the top 50 higher education institutions with the most applications in 2019 with 470 applications. China's Tsinghua and Shenzhen universities ranked 2-3, respectively.

The 4th place was taken by the Massachusetts Institute of Technology, while the South China University of Technology was ranked 5th. Overall, 20 of the top 50 universities are in the United States and 14 in China. In 2019, only the universities of the United States, the United Kingdom, Japan, the Republic of Korea, and Saudi Arabia entered the top 20 most active universities [16, p. 23].

Key indicators for evaluating the technology transfer and patent management activities of universities and other government research organizations are disclosure of information about inventions, patent applications, patent filing, formalized licensing, and license fees.

According to the above, the activities of universities on the transfer of knowledge will be more focused on research cooperation and spin-offs, while in other public research organizations such activities will be mainly focused on licensing.

There is no complete and comparative data on technology transfer in the group of countries with economies in transition. Informal data suggest significant differences in technology transfer strategies and outcomes. In 2008, 11 percent of patent applications in Albania came from universities. In Uzbekistan, only 7 out of 325 license agreements concluded between 2004 and 2006 were issued by the Academy of Sciences, and no agreements were concluded by any other university or research organization [18, p. 31].

A number of works are being carried out to eliminate this situation, commercialize the property created by universities and other higher education institutions and create favorable conditions for it. In particular, approved by the decree of the president of the Republic of Uzbekistan dated October 8, 2019 № PF-5847, the task of creating spin-off and spin-out enterprises engaged in the

implementation of scientific research results in the presence of higher educational institutions by creating new products and technologies with high potential for commercialization in the concept of development. At present, work is also being carried out to improve the efficiency of the Uzbek-Japanese Youth Innovation Center under the Tashkent State Technical University, the educational-practical textile Technopark under the Tashkent Institute of textile and light industry and the Innovation Technopark under the Urgench State University. At the same time, the Center for the development of nanotechnology under the National University of Uzbekistan, the Research Institute of semiconductor physics and microelectronics, the Institute of Biophysics and Biochemistry, the scientific and practical center of software systems of Uzbekistan are carrying out and developing modern research.

In conclusion, the following proposals aimed at the development of commercialization of intellectual property of higher education institutions of the Republic are put forward:

1. Preparation of a draft law on the transfer of technology and their commercialization in paragraph 25 of the package of measures to strengthen the infrastructure and development of innovative activities of research institutions in 2017-2021, approved by the President of the Republic of Uzbekistan dated November 1, 2017 No PP-3365 function is defined. The bill created the legal basis for the transfer of technology from higher education and research to industry and is still a leader in the Bay Area Act of 1980, the 1998 Bayah Dole Act, and the 1998 Universities and other public research institutes in Japan. Law on Supporting the Transfer of Technological Research Results to the Private Sector "and the 1999 Law on Special Measures for Industrial Revitalization.
2. By the Decree of the President of the Republic of Uzbekistan "On additional measures to improve the mechanisms of introduction of innovations in industries and sectors of the economy" dated May 7, 2018 No PP-3698, departments of higher education institutions for commercialization of scientific and innovative developments were established. It is recommended to coordinate the activities and powers of these departments with the activities of Technology (knowledge) transfer offices in the United States, Germany and Japan, which are leaders in the field of technology transfer.
3. The program of practical work on the development of intellectual property (inventions, utility models, industrial designs, selection achievements) for 2021-2023 provides for the development of intellectual property policy of higher education and research institutes. It is desirable that the WIPO) be developed in accordance with the provisions of the Model Regulations on intellectual property policy for universities and research institutions, taking into account the conditions of Uzbekistan. At the same time, the use of guidelines for the adaptation of the Model Regulations of the World Intellectual Property Organization on Intellectual Property Policy for Academic Organizations and Research Institutions in the preparation and implementation of the Model Regulations will facilitate the rapid and effective implementation of the Regulations.

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